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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/782,790

02/23/2004

Kazuhide Tanaka

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5538

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EXAMINER

WARTALOWICZ, PAUL A

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

12/24/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/782,790	<b>Applicant(s)</b> TANAKA ET AL.	
	<b>Examiner</b> PAUL A. WARTALOWICZ	<b>Art Unit</b> 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 December 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 9-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's arguments filed 11/4/08 have been fully considered but they are not persuasive.

Applicant argues that Theime fails to teach the limitations recited in instant claims 9 and 10 and that Theime merely recites a diffusion barrier should be placed around the magnesium boride core wire.

However it appears that the structure instantly claimed is taught by the prior art such that there does not appear to be a substantial distinction between the prior art of record and that instantly claimed.

Applicant argues that Yamada does not remedy the deficiencies of Thieme.

However Yamada is relied upon to teach that the base metal has one or more holes. It is not relied upon to teach a junction auxiliary material arranged between the metal cladding layer and the metal base member. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Applicant argues that Meyers teaches a plurality of holes in which a semiconductor is located.

However the Meyers recitation applicant points to does not teach a semiconductor. The purpose of Meyers is provide a sheathed superconductor (col. 2,

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lines 15-25). Superconductor material is referenced in the recitation provided by applicant.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 9, 10, 12-15, and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thieme et al. (U.S. 2003/0036482) in view of any one of Yamada et al. (U.S. 5935911) or Meyer et al. (U.S. 5043320).

Thieme et al. teach magnesium boride superconducting wires [0002] wherein the magnesium boride is surrounded by tantalum, niobium, nickel, nickel alloys, iron, or molybdenum, wherein the wire further comprises a metal laminate on the outside of this barrier layer selected from the group consisting of copper, copper alloys, stainless steel,

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aluminum, aluminum alloys, and nickel alloys [0016]-[0018]. Additionally, Theime et al. teach a diffusion barrier surrounding the superconductor comprising nickel alloys, tungsten, and molybdenum (this layer corresponds to the metal base of the instant invention, [0016]) wherein the matrix is copper (this layer corresponds to the junction material between the base metal and the metal cladding of the instant invention, [0015]), wherein the laminate is copper (this layer corresponds to the metal cladding layer of the instant invention, [0018]).

Thieme et al. fail to teach that the base metal has one or more holes.

Yamada et al. teach a method for making a superconducting wire (col. 1) wherein a hole is formed in a portion of a molded body for the purpose of inserting core members in the hole (col. 3).

Meyer et al. teach a method for making superconducting wire (col. 1) wherein holes are formed in silver body for the purpose filling the holes with superconductor powder (col. 3).

It would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to provide a hole is formed in a portion of a molded body in Theime et al. in order to insert core members in the hole or in order to insert the holes with superconductor powder as taught by Yamada et al. or Meyer et al.

As to the limitation of "is assembled into", it is unclear how this limitation lends a patentable distinction between the claimed invention and the prior art. It appears that the prior art meets this limitation as the superconductor and covering metal are abutting the base material (outer covering).

Claims 11 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thieme et al. (U.S. 2003/0036482) in view of any one of Yamada et al. (U.S. 5935911) or Meyer et al. (U.S. 5043320) and Liberman et al. (U.S. 2003/0135971).

Thieme et al. teach a compound sheath as described above.

Thieme et al. fail to teach a plurality of the single-core or multi-core wires are assembled into the base metal and they are twisted.

Liberman et al. teach a magnesium diboride superconductor [0551] wherein a plurality of single-core wires are assembled into a base metal ([0326], Fig. 60, 60A) that are twisted [0261].

It would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to provide a plurality of single-core wires are assembled into a base metal that are twisted in Thieme et al. in order to produce a known superconducting wire as taught by Liberman et al.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PAUL A. WARTALOWICZ whose telephone number is (571)272-5957. The examiner can normally be reached on 8:30-6 M-Th and 8:30-5 on Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on (571) 272-1358. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Paul Wartalowicz  
December 21, 2008

/Steven Bos/  
Primary Examiner  
A.U. 1793